

REPLY

Mr. Examiner of the Patent Office

1. Identification of the International Application

International Application No. PCT/JP03/03751

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4. Date of Notice 09.03.04

5. Arguments

We can not accept the judgment by Mr. Examiner to the effect that "the amount of light which will be wasted in producing said circular deflection is reduced by utilizing at least one of the functions including condensing, more than twice reflecting, and refracting, and" is not within the scope of the disclosure in the international application when the present invention is

filed.

(1) As for "condensing"

In the lines 19 through 26 of the page 12 in the original specification in the international application, there is a description about a lens array wheel. The lens array wheel has a plurality of convex lens functional units in a disc shape arranged along its circumference. This reduces the amount of light which will be wasted in producing circular deflection by utilizing the function of condensing.

(2) As for "more than twice reflecting"

- ① In the line 10 of the page 21 in the original specification in the international application, there is a description like this, "The lens array wheel (LAW) can be replaced with a scroll disc 4A. The scroll disc 4A corresponds to one, a part of which is provided with a transparent portion and the remainder of which is a mirror. Fig. 34 illustrates the scroll disc 4A. In Fig. 34, 4Aa represents the transparent portion, and 4Ab represents the mirror. Consequently, white light is projected onto the liquid crystal display panel only in a period of a transmission portion of the scroll disc, for example, and the remainder is returned to the rod integrator

3, is reflected, and is reused, as shown in Fig. 35." That is, the amount of light which will be wasted in producing circular deflection is reduced by utilizing more than twice reflecting function.

② In the line 17 of the page 21 in the original specification in the international application, there is a description about a black-and-white wheel 4B. In the first line of the page 22, there is a description, "The light irradiated onto the reflecting surface which is indicated in black is returned to the inner part, and is reused". That is, the amount of light which will be wasted in producing circular deflection is reduced by utilizing the function of more than twice reflecting.

③ In the line 21 of the page 22 in the original specification in the international application, there is a description of the scroll disc 44A. Also, in the second line of the page 23 in the original specification in the international application, there is a description of an auxiliary mirror 45. The amount of light which will be wasted in producing circular deflection is reduced by the reflection on the light reflection area of the scroll disc 44A and the reflection by the auxiliary mirror 45 (by utilizing more than twice reflecting function).

(3) As for refracting

In the line 12 of the page 22 in the original specification in the international application, there is a description of a scrolling prism 4D. The scrolling prism reduces the amount of light which will be wasted in producing circular deflection by utilizing the function of refracting.

Accordingly, the amendment of claim 1 to the first written opinion should be the amendment within the scope of the disclosure in the international application when the present invention is filed.

Furthermore, as stated in the reply to the first written opinion, the cited documents indicate that a configuration in which an optical system is made in a linear shape and the utilizing efficiency of light is increased at the same time can not be realized.

On the other hand, the invention of claim 1 is a configuration in which an optical system can be made in a linear shape and the utilizing efficiency of light can be increased. That is, light deflecting means of the present application circularly deflects irradiated light without wasting it when said light is transmitted. The means "transmits" the light, therefore, it has an advantage that is

impossible to get when using a prism mirror (that is, an advantage that the optical system can be configured as to be in a linear shape). Light may be deflected by transmission in the end. It means that the invention of claim 1 includes the case in which light is reflected at a halfway portion on the optical path.

